

Lithologic Log Addendum

Well BLM-13-300

Cuttings of the lithologic unit from well BLM-13-300 were sent to the Department of Geological Sciences, New Mexico State University (NMSU), Las Cruces, New Mexico, for detailed petrographic analysis when identification of fine-grained, highly altered volcanic rocks at the NASA-WSTF site became difficult using conventional field methods. Petrographic reports from NMSU were received after the printing of these lithologic logs, hence the need for this addendum. The petrographic description from NMSU is included below.

Previous unit name based on field identification: **Rhyolite**

New Unit name based on petrographic analysis: **Porphyritic Latite**

BLM-13-300 (295' - 300')

Porphyritic biotite latite

Origin:	lava flow
Texture:	aphanitic porphyritic
Phenocryst mineralogy:	sanidine + plagioclase + biotite
Porosity:	very low except along veins
Alteration:	zeolite in veins and pods, feldspars altered to clay

Approximately 10% phenocrysts are surrounded by a groundmass of devitrified glass, feldspar, FeTi oxides, and apatite. There is no evidence of glass shards or pumice fragments; thus, the sample probably is not pyroclastic. Sanidine phenocrysts (5%, 0.2 - 1.2 mm) are subhedral to euhedral. Plagioclase phenocrysts (4%, 0.15 - 1.3 mm) are anhedral and complexly zoned and resorbed. Biotite (1%, 0.09 - 1.0 mm) is subhedral to anhedral, oxidized, and has yellow to dark brown pleochroism. Traces of highly oxidized hornblende (approximately 0.6 mm) and FeTi oxides (approximately 0.1 mm) are present. The porosity is very low except along grain boundaries and veins, where alteration has been concentrated. Colorless zeolite exists in veins and pods throughout the rock, and veinlets of clay run through the feldspar phenocrysts. The rock originated as a lava flow.